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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/733,530
Filing Date: December 08, 2000
Appellant(s): MILBY ET AL.

MAILED

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Technology Center 2100

Dan C. Hu
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 27, 2005 appealing from the Office action
mailed March 30, 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The grouping of the claims are accepted. The examiner's arguments will parallel the arrangement of arguments as set by appellant's grouping of the claims.

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

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U.S. Patent 6,571,259 Zheng et al. Published May 27, 2003

Filed September 26, 2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Zheng et al.

Claim 1: FIG. 3 of Zheng et al. discloses a first file management context (columns 1-3 of the table) which is a pool of storage elements (bits) that indicates the allocation of permanent files (on disk). The first file management context is stored in columns of a relational table. The relational table itself is a permanent storage device because the table itself is never erased. While bits within table can be changed, the table itself is a permanent arrangement.

A second file context (all of columns in table of FIG. 3) are a second file management context and indicate the allocation of permanent files (column 1) and the allocation of temporary files (column 4).

The second file management context is referred to by Zheng et al. as a “block index” and is shown as block index (39) in FIG. 1 (col. 6, lines 45-49). The data from this index can be written to non-persistent memory (a file system cache) prior to a commit operation (col. 3, lines

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60-65). Additionally, this block index is controlled by the cache manager, which is part of the file system cache (non-persistent memory).

Claim 2: The first file management context (columns 1-3 of FIG. 3) is a subset of the second file management context (columns 1-5 of FIG. 3).

Claim 3: The system includes a control module (20) which can update the second file management context (columns 1-5 in FIG. 3) without updating the first file management context (columns 1-3 in FIG. 3). For example, block 1 in FIG. 3 has been updated to include a pointer in the fourth column (belonging to the second context), without updating the bit in column 1 (belonging to the first context).

Claim 4: The control module can update the bits in both of the first and second file management contexts. This is illustrated by block 3 in FIG. 3, where all of the columns have been updated. By converting the bits from "0" to "1" and activating the pointer.

Claim 5: The pool of storage elements (pool of bits in FIG. 3) correlate to blocks of memory in either the disk (persistent storage) or cache (non-persistent storage).

Claim 6: The table of FIG. 3 is used for purposes of memory allocation. This table allows the control module (20) to allocate to temporary storage (cache) or permanent storage (disk).

Claim 7: The first storage management context (cols. 1-3 of FIG. 3) includes a storage identifier map (col. 1) and an allocation unit map (col. 3). These columns indicate allocations of memory to permanent storage.

Claim 8: Since the second storage management context includes all of the elements of the first storage management context, it includes the storage identifier map and allocation unit map already contained in the first storage management context.

Claim 9: The system (20) is readable as an access module and contains non-persistent memory (cache).

Claim 10: The access module (20) is a server (col. 4, line 67).

Claim 11: The system includes an application programming interface (layer 23 in FIG. 1) which is invocable to access the first and second file management contexts.

Claim 12: Data can be copied from the first file management context to the second file management context during the operation of the system. For example an allocated block on a disk, indicated by block 1, can be copied into an allocation in column 3 and a pointer in column 4 during the normal operation of the system.

Claim 13: FIG. 1 of Zheng et al. illustrates one access module (20), one persistent storage device (disk 22 or relational table in FIG. 3), a first file management context (columns 1-3 in FIG. 3) and a second file management context (columns 1-5 in FIG. 3).

Claim 14: Claim 14 recites steps being performed (beginning of line 3) and not performed (end of line 5) simultaneously, so it is presumed that the non-performance of the step is an option. The access module can perform the step of database logging (see 33 in FIG. 1). The logging occurs conditionally, such as when the system experiences a crash (col. 8, lines 52-61). The step of transaction locking is also optionally recited and not attributed patentable weight.

Claim 15: Any data contained in any file is readable as "user data". Any data contained in the table of FIG. 3 is considered to be a "query result" since the data in the table results from transactions.

Claim 16: See remarks for claim 1 and 3.

Claim 17: The first file management context is a map of memory allocation made on persistent memory, while the second file management context is a map of memory allocation on both persistent and non-persistent memory. During a crash, data on persistent memory is inherently retained, while data on non-persistent memory is inherently lost.

Claim 18: See remarks for claim 7.

Claim 19: See remarks for claim 8.

Claim 20: In FIG. 3, the resetting of bits from “0” to “1” is considered the activation of a flag. The activation of a pointer is also considered the activation of a flag.

Claim 21: See remarks for claim 12.

Claim 22: See remarks for claim 14.

Claim 23: See remarks for claim 1.

Claim 24-25: See remarks for claim 20. The flags can indicate permanent or temporary files.

Claim 26: See remarks for claim 14.

Claim 27: Columns 1-3 of FIG. 3 illustrate a first file management context. Columns 1-5 of FIG. 3 illustrate a second file management context. The first file management context can be viewed as being stored in a non-persistent memory in the sense that the data elements are stored in a management structure (34) belonging to the cache memory (24). The second file management context can be viewed as being stored in a persistent storage in the sense the table itself which stores the data bits is persistent. Although the bits in the table may change, the table itself is never erased and is persistent.

Claim 28: In FIG. 3, block number 1 is updated in both the first context (columns 1-3) and the second context (columns 4-5). Block number 4 is updated in the first context (columns 1-3) without updating the second context (columns 4-5).

Claim 29: See remarks for claim 14.

(11) *Response to Argument*

Consideration of Evidence under 37 CFR 1.131:

As part of the response to the application of the Zheng et al. prior art reference, appellant has submitted prior to the final rejection a submission of documents under 37 CFR 1.131 in order to antedate the Zheng et al. reference. The documents submitted are attached to appellant's brief and were addressed in the final office action. Appellant has sought to antedate the Zheng et al. reference by establishing conception followed by diligence. The examiner has found that the evidence presented is insufficient to establish conception or diligence under 37 CFR 1.131.

Conception:

In considering conception, examiner has considered the document entitled "NCR Invention Disclosure Record" which consists of a cover sheet and three pages of documentation including drawings. As pointed out by the examiner in the final office action, this document has no signatures and no dates.

A second document entitled: "Declaration of Gregory H. Milby, Steven C. Gromelund and Susan E. Choo 37 CFR 1.131" was considered. This document states at point #2 that "The document attached as Exhibit A is a copy of the invention disclosure I submitted to NCR

corporation, the assignee of the present application, regarding the invention described in the present application.” This document is signed and dated by the three individuals listed.

Considering these two documents together, examiner has found the first to be lacking in both signature and dates and the second to be a signed verification that the documents submitted are actual copies of that which was submitted to NCR. The only conclusion that can be drawn from such evidence is that the NCR Invention Disclosure Record was not signed and not dated by any of the inventors of record. This raises a clear question of doubt as to whether the information presented is accurate. When inventors do not sign or date documents and simultaneously confirm that that they are providing true copies of their work, the lack of signatures and dates raise clear doubts about the reliability and accuracy of the information presented, and the examiner is well within his authority to raise these doubts as the basis for ruling that this information renders the affidavit ineffective.

Additionally, the lack of explanation associated with the NCR filing raises questions as to the effectiveness of the affidavit under 37 CFR 1.131. MPEP 715.07 states:

“Applicant must give a clear explanation of the exhibits pointing out exactly what facts are established and relied on by applicant. 505 F.2d at 718-719, 184 USPQ at 33.”

The declaration of Gregory H. Milby et al. referred to above is the only explanation associated with the NCR filing and does not provide any explanation of the NCR documents filed, particularly, the lack of signature and dates. It also does not assert any specific date of conception or otherwise explain the contents of the NCR filing. This lack of explanation further supports the examiner’s contention as to the ineffectiveness of the affidavit under 37 CFR 1.131.

Appellant’s Arguments Regarding Documents Establishing Conception

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In appellant's arguments filed with the brief, appellant argued that there is no requirement that the documents submitted be signed by the inventors, and pointed to MPEP 715.07 at 700-231 in which discussion is made regarding the removal of dates from documents.

Examiner maintains that the unexplained lack of signature from documents is evidence which may be considered under 37 CFR 1.131, and that such evidence raises clear questions as to the accuracy and reliability of such documents. While it is true that the MPEP does allow for an exception for removal of dates from documents, in this case, the evidence does not support a conclusion that any such information was actually removed. The statements of Gregory H. Milby, Steven C. Gromelund and Susan E. Choo (which are signed and dated) establish that the exhibits are a copy of that which was submitted to NCR Corporation. There is no statement that the missing signatures and dates were redacted, so the evidence only demonstrates that they were not supplied. This raises a fundamental issue as to accuracy and reliability of these documents.

Diligence

In considering the issue of diligence towards reduction to practice, the examiner has considered all of the remaining documents pertaining to activities occurring after the submission of the documents to NCR. Examiner has concluded that there is insufficient evidence of diligence to support the acceptance of the affidavit under 37 CFR 1.131.

The declaration of Dan C. Hu, dated January 7, 2004, is the only chronological record of events that pertain to the issue diligence. Statement #2 by Mr. Hu indicates that he received the invention disclosure on August 23, 2000. Since the date of conception is not affirmatively established or confirmed by the inventors, the time lag from conception to contact with Mr. Hu cannot be determined with certainty. The date of conception of March 26, 2000 (shown on the

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NCR Invention Disclosure Record Cover Sheet) cannot be confirmed as the date of conception since it was not verified by the inventor's signatures. Even assuming the date of March 26, 2000 were considered, it would demonstrate a five month unexplained time frame of inactivity.

Additionally, points #6 through #8 in the Declaration of Dan C. Hu cannot be confirmed since the evidence presented are only e-mails and fax cover sheets, not the actual draft documents being relied upon.

In view of these consideration, examiner has found insufficient evidence of diligence in support of the affidavit under 37 CFR 1.131.

Appellant's Arguments regarding Diligence

Appellant has argued that the examiner has erred in considering the evidence of diligence, by considering the evidence of diligence between March 26, 2000 and August 23, 2000, which is indicated by appellant as being the wrong time frame for consideration of diligence. Appellant states the correct period is "just prior to September 26, 2000 and the filing date of the present application (December 8, 2000)".

As stated above, the only information pertaining to diligence is the Declaration of Dan C. Hu, dated January 7, 2004. Since the date of conception has not been affirmatively established, the time prior to September 26, 2000 in which no activity occurred cannot be positively established. All that is known is that the activity began with first contact to Mr. Hu on August 23, 2000. After this first contact, the actual documents which were exchanged between the inventors and Mr. Hu and unknown and not provided. Given these considerations, the evidence does not sufficiently support evidence of diligence required under 37 CFR 1.131.

Application of the Zheng et al. reference under 35 USC 102(e)

Claim 23: Appellant's arguments regarding claim 23 appear to be a blanket assertion of patentability without any specific supporting rationale. The rejection of claims 23 is therefore sustained for lack of argument specific to the merits of the reference.

Claims 1-13, 15-21, 27 and 28: Appellant argues that Zheng et al. does not disclose a persistent data storage device storing a first file management context and a second non-persistent memory storing a second file management context. Examiner maintains that the table of FIG. 3 in Zheng et al. is in fact a form of persistent storage, by reason that the table is never destroyed, and is used repeatedly to maintain a log of memory allocations. Appellant alleges (page 8, first paragraph of brief) that the table itself is destroyed when the power is shut off, although appellant does not provide any supporting quotations from Zheng et al. to prove this assumption. In fact, this assumption does not appear on its face to be consistent with Zheng et al., for if the table of FIG. 3 were completely destroyed when a user turned off the computer, the functionality of file allocation would be lost every time the user shut down the system. Zheng et al. does not ever suggest that the system loses its fundamental functionalities during a power loss. Appellant also argues that Zheng et al. lacks teaching of a second file management context in non-persistent memory. The second file management context is the collective set of all the columns of data shown in FIG. 3. This is referred to as the block index (39—col. 6, lines 46-49). The data which forms this second context does get migrated to a file system cache (a non-persistent memory) in response to a write request (col. 3, lines 60-65). Additionally, as seen in FIG. 1, the architecture of the system demonstrates that the block index (39) is controlled by the cache manager (34) and thus forms part of the cache memory system (non-persistent storage).

Claims 14, 22, 26, 29: Appellant's arguments are only specific to claim 14. As noted in the explanation associated with claim 14, the claim recites conflicting features which cannot occur simultaneously. In particular, the claim calls for updating the first file management context (claim 14, line 3) and then not performing this otherwise required step (claim 14, last line). Additionally, the claim recites options of either transaction locking or database logging, only one of which appears to be mandatory. Examiner's interpretation is that the claim presents the option of database logging when updating the first file management context. The recitations of not performing the updating of the first file management context (claim 14, last line) logically cannot be met in this option, so is viewed as option which is not exercised in the claim. Examiner's explanation associated with claim 14 herein detail the nature of the database logging.

Claims 24-25: Appellant argues that Zheng et al. does not teach the step in claim 24 of updating both the first and second file management contexts. However, as seen in FIG. 3, any of the binary digits or pointers in any of the rows and columns can be updated, so both contexts are in fact capable of being updated.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,



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Art Unit 2165

March 30, 2005

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